

REMARKS

On page 2 of the Action, the drawings were objected to. In regard to the skew in claim 20, Fig. 11A shows the skew 511a (paragraph 0096), and in regard to a pair of rotors in claim 29, Fig. 1 show this structure (paragraph 0055). Please withdraw the objection.

In paragraphs 1-3 of the Action, claims 1-3, 7-9, 20 and 28-31 were rejected under 35 U.S.C. 103(a), and claims 4 and 10-19 were objected to. In view of the rejections and objections, claims 1, 2-4 and 9 have been amended. Claim 31 has been canceled, and new claims 32-34 have been added. Claim 33 is a combination of previous claims 2 and 4, and claim 34 is a combination of previous claims 2, 9 and 11. Thus, claims 33 and 34 are allowable over the cited references.

Claim 1 has been amended to obviate the rejections, as explained below.

Rejection under 35 U.S.C. 103(a) by Varga and Suzuki

In the Action, Varga was cited to show a general axial gap electronic motor, and it was held that Varga does not disclose that the stator comprises each of said pole member comprising an insulator having left and right flanges for winding coils and a connecting means for connecting adjacent pole members.

Varga shows a general axial gap electronic motor, but does not have the specific stator of the invention, as stated in the Action. In this respect, Suzuki was cited.

In Suzuki, a rotary electric machine comprises a plurality of stator yokes 32 annularly connected together. Each stator yoke 32 comprises a salient pole 34, a bobbin 36 with flanges or collars, and a salient coil 38 wound around the bobbin 36. A pin 41, a hole 43 and a slot 45 are formed on the bobbin 36 for connecting the poles 34 adjacent to each other, and a resin 58 is molded for integrally fixing the pole members 34.

As clearly shown in Fig. 5, the bobbin 36 includes collars 39a, 39b, and a hole 37, to which the salient pole 34 is inserted. Namely,

the bobbin 36 made of resin is formed separately from the salient pole 34, and assembled together. The bobbins 36 arranged annularly are molded together with the resin 58.

In claim 1, each of the pole members has a stator iron core, and an insulator for winding a coil, similar to Suzuki, but the insulator is integrally formed with the stator iron core as one unit.

In Suzuki, since the salient pole 34 is inserted into the hole 37 of the bobbin 36, a gap is formed in the hole, so that the resin 58 is applied to mold together. Thus, accuracy in assembling the salient pole 34 and the bobbin 36 is lowered. In the invention, since the iron core and the insulator are integrally formed or molded together, it is possible to form the pole member in one step with high accuracy.

In Suzuki, the bobbin 36 is formed in advance, and after assembling each of the bobbin 36 and the salient pole 34, the bobbins are molded by the resin 58. Therefore, Suzuki requires additional steps of molding the bobbins 36 and the salient poles 34. In the invention, the insulator and the iron core can be easily formed.

In the invention, since the connecting means are formed in the pole members, the pole members can be easily and accurately connected together.

In Suzuki, the bobbin 36 is not integrally formed with the salient pole 34. Thus, the features of claim 1 of the invention are not disclosed in Suzuki. Accordingly, claim 1 is not obvious from Varga in view of Suzuki.

Rejection under 35 U.S.C. 103(a) by Varga, Suzuki and Hsu

Claim 8 rejected by the references have been canceled.

Rejection under 35 U.S.C. 103(a) by Varga, Suzuki and Kliman et al.

Claim 20 rejected by the above three references depends from claim 1, which is not obvious from Varga and Suzuki, as explained above. Kliman et al. was cited to show that the magnetic core poles are skewed. Although Kliman et al. discloses that the magnetic core poles are skewed,


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Kliman et al. does not rectify the deficiency of the basic structure disclosed by Varga and Suzuki. Therefore, claim 20 is not obvious from the cited references.

As explained above, the features now clearly recited in claim 1 is not obvious from the cited references.

Reconsideration and allowance are earnestly solicited.

Respectfully submitted,

by   
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